



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/754,490	01/04/2001	Wail Refai	8194-479	2897

20792 7590 12/29/2006
MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

EXAMINER

WONG, BLANCHE

ART UNIT	PAPER NUMBER
----------	--------------

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/754,490

Applicant(s)

REFAI ET AL.

Examiner

Blanche Wong

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-18 and 20-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-7, 10-15, 17, 20, 21, 23-25, 27, 29-37, 39-41 and 43 is/are rejected.
- 7) ☒ Claim(s) 3, 8, 9, 16, 18, 22, 26, 28, 38, 42, 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the Appeal Brief filed on September 28, 2006, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Claim Objections

2. Claims 11 and 28 are objected to because of the following informalities:

With regard to claim 11, line 33, Examiner suggests replacing –according to the second radio configuration—with “according to the identified second radio configuration” in consistent with claim 1, line 9.

With regard to claim 28, line 3 and 5, Examiner suggests replacing –the common radio configuration—with “the identified common radio configuration” in consistent with claim 24, line 8.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 2,15,25,37,41** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 2, it is unclear what is compliant and what is non-compliant. Similarly for claims 15,25,37,41.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1,5-7,10-13,24,27,29-36,39** are rejected under 35 U.S.C. 102(e) as being clear anticipated by Tiedemann, Jr. (U.S. Pat No. 6,307,849).

With regard to claim 1, Tiedemann discloses

communicating between the wireless terminal (**mobile 18 in Fig. 1, col. 4, lines 49**) and a first node (**base station 12 in Fig. 1, col. 4, line 48**) according to a first radio configuration of a first set of radio configurations (**single carrier wireless CDMA communications, col. 4, lines 49-50**) supported by the first node;

identifying (**pilot channels are identified by pilot PN code shifts whereas traffic channels are identified by different Walsh codes**) (the pilot channels are distinguished from the traffic channels transmitted from the same base station by different Walsh codes. The respective pilot channels from different base stations are distinguished from one another by pilot PN code shifts, col. 5, lines 28-32) a second radio configuration available for a second node (**base station 16 in Fig. 1, col. 4, line 48**) that supports a second set of radio configurations (**pilot channels**) that is different from the first set of radio configurations (**traffic channels**); and

simultaneously communicating (**soft handoff, col. 5, line 27; see also soft handoff is the process simultaneously interfacing a mobile with two or more base stations, col. 1, lines 49-51; see also at least one connection is maintained at all times, col. 1, lines 56-57**) (the respective pilot channels simultaneously communicate its signal power with the mobile and the stronger signal power induce handoff to the respective base station)(the pilot channel received at the

Art Unit: 2616

mobile from the base station 16 would expect to be larger in received signal power than ... base station 12 because the mobile is closest to the base station 16, col. 5, lines 35-38) between the wireless terminal and respective ones of the first and second nodes according to the identified second radio configuration (**pilot channels**) using a common channel coding including a common spreading code (**common spreading code**) (see also the pilot channel transmitted by each base station uses a common spreading code, col. 2, lines 4-5).

With regard to claim 5, Tiedemann discloses a method according to claim 1.

Tiedemann further discloses

receiving first and second signals transmitted from respective ones of the first and second nodes (**base stations**) at the wireless terminal (**mobiles**) (“... **base stations transmit to mobiles on the same frequency band, and mobiles transmit to base station on a second frequency band, is that “soft handoff”...**”, col. 1, lines 44-47; see also each base station transmits a respective pilot channel that is used by the mobiles, col. 1, line 67-col. 2, line 1); and

processing the first and second signals according to a common process (**the handoff**).

With regard to claim 6, Tiedemann discloses a method according to claim 5.

Tiedemann further discloses

Art Unit: 2616

wherein receiving first and second signals transmitted from respective ones of the first and second nodes at the wireless terminal comprises receiving a composite **(combines)** signal including the first and second signals **(the mobile receives the signals from the set of base stations and combines them, col. 2, lines 10-12)**; and

wherein processing the first and second signals according to a common process comprises processing the composite signal according to a RAKE process **(rake) (the digital data receivers cooperate with the diversity combiner/decoder to form a “rake” receiver structure, col. 7, lines 58-60; see also digital data receivers included in mobile, col. 7, lines 49-50).**

With regard to claim 7, Tiedemann discloses a method according to claim 1. Tiedemann further discloses

the first and second radio configurations comprise CDMA radio configuration **(CDMA, col. 1, line 10; see also col. 4, line 27).**

With regard to claim 10, Tiedemann discloses a method of claim 1. Tiedemann further discloses identifying the second node as a best candidate node according to a predetermined criterion **(determine [handoff] ... based on the relative pilot channel qualities, col. 6, line 23).**

With regard to claim 11, Tiedemann discloses simultaneously communicating **(soft handoff)** is preceded by requesting communication according to the second radio

Art Unit: 2616

configuration (**pilot channel**) from the wireless terminal (**toward the end of the soft handoff region, only one base station's signal remains within the mobile's active set, col. 6, lines 40-41**).

With regard to claim 12, Tiedemann discloses simultaneously communicating (**soft handoff**) is preceded by commanding the wireless terminal (**the one base station**) to communicate according to the second radio configuration (**pilot channel**).

With regard to claim 13, Tiedemann discloses simultaneously communicating is followed by terminating communications (**handoff**) between the wireless terminal and the first node while continuing communications between the wireless terminal and the second node.

With regard to claim 24, see analysis for claim 1 where a radio configuration control circuit is the system controller 10 in Fig. 1, col. 4, line 29, and second radio configuration is replaced with common radio configuration.

With regard to claim 27, see analysis for claim 12.

With regard to claim 29, see analysis for claim 7.

With regard to claim 30, Tiedemann discloses a system according to claim 24.
Tiedemann further discloses the first node comprises a base station (**base stations**).

With regard to claim 31, Tiedemann discloses a system according to claim 24.
Tiedemann further discloses the radio configuration is positioned at a mobile switching center (**system controller 10 in Fig. 1, col. 4, line 29**).

With regard to claim 32, see analysis for claim 1 where a transceiver circuit is the mobile and a radio configuration control circuit is the system controller 10 in Fig. 1, col. 4, line 29.

With regard to claims 33-35, see analyses for claims 11,12,7 respectively.

With regard to claim 36, see analysis for claim 1.

With regard to claim 39, see analysis for claim 7.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 14,17,20-23,40,43** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fauconnier (U.S. Pat No. 7,043,244) in view of Tiedemann.

With regard to claim 14, Fauconnier discloses
determining whether a common radio configuration (**common radio configuration**) having a common channel coding including a common spreading code is available for the first and second base stations; and
handing off (**soft handover**) the wireless terminal (mobile terminal) from the first base station to the second base station based on the determination of whether a common radio configuration is available for the first and second base stations (**When a mobile terminal is in soft handover there is a common radio configuration of the radio links between the different base station and the mobile terminal, col. 7, lines 30-32**).

However, Fauconnier fails to explicitly show a common radio configuration having a common channel coding including a common spreading code.

Tiedemann discloses a common radio configuration (**pilot channel**) having a common channel coding including a common spreading code (**common spreading code**) (the pilot channel transmitted by each base station uses a common spreading code, col. 2, lines 4-5; see also mobiles transmit to base station on a second frequency band, col. 1, lines 45-46).

Art Unit: 2616

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a common radio configuration having a common channel coding including a common spreading code in Fauconnier. The suggestion/motivation for doing so would have been to provide for handoff based on pilot channel qualities. Tiedemann, col. 6, line 23. Therefore, it would have been obvious to combine Tiedemann with Fauconnier for the benefit of a common radio configuration having a common channel coding including a common spreading code, to obtain the invention as specified in claim 14.

With regard to claim 17, the combination of Fauconnier and Tiedemann discloses a method according to claim 14. Fauconnier further discloses a soft handoff (**soft handover, col. 7, line 30**).

With regard to claims 20 and 21, see analysis for claims 5 and 6 respectively.

With regard to claim 23, see analysis for claim 7.

With regard to claim 40, see analysis for claim 14.

With regard to claim 43, see analysis for claim 17.

Art Unit: 2616

Allowable Subject Matter

9. Claims 3,8,9,16,18,22,26,28,38,42,44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 2,15,25,37,41 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BW

BW

December 12, 2006


HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600